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ABSTRACT

"Give and Take" is a series of twelve 15-minute television/film programs and related print materials on economics and consumer economics designed to improve the knowledge and decision-making skills of 13- to 15-year-old students. This paper reviews six separate research studies that help to determine the effects of "Give and Take" on students' knowledge of and attitudes toward economics, and whether teacher training with the program affects students' outcomes. Information provided for each of the studies includes: (1) the major investigative focus; (2) research methodologies; (3) the target population; and (4) study findings. A final section integrates the findings of the studies and draws conclusions based on their results. It is concluded that "Give and Take" is an excellent tool for increasing student economic cognition when used by a teacher with an active teaching style. Furthermore, there is limited evidence that it has a positive influence on student attitudes toward economics and on teachers' attitudes toward teaching economics. Appendices contain a list of instruments used in the six studies and a comprehensive chart of studies reviewed. References are also provided. (JB)

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ED268998

GIVE & TAKE

What the Research Is Saying

Agency for Instructional Technology
Canadian Foundation for Economic Education
Joint Council on Economic Education

(AIT Research Report 95)

IR012087

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Give & Take: What the Research Is Saying

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Agency for Instructional Technology
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Joint Council on Economic Education

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Summary

This paper contains reviews of six studies that have examined the impact of the *Give & Take* series. The researchers asked questions about the following.

1) *Give & Take*'s absolute effectiveness
2) *Give & Take*'s relative effectiveness compared to traditional teaching of economics
3) the effectiveness of *Give & Take* workshops
4) the influence of various demographic variables on *Give & Take*
5) the instructional impact of *Give & Take* on other areas of the social studies curricula and on reasoning processes

Researchers used a variety of designs and instruments.

Findings

1) The series was very effective as a supplement to traditional economics instruction by teachers who had been trained in the use of *Give &Take*.
2) Economics instruction in all the classrooms that used *Give & Take* was as effective or more effective than instruction in classrooms that did not use *Give & Take*, regardless of teacher training.
3) When *Give & Take* was used without traditional instruction it produced results that exceeded those of traditional teaching alone.
4) The impact of *Give & Take* was unaffected by most of the demographic variables that were studied (e.g. race, religion).
5) *Give & Take* had a positive, direct impact on critical reasoning skills and a positive, indirect impact on verbal and quantitative skills.
6) There is some evidence that the impact of *Give & Take* on attitudes toward economics is positive, although findings are limited at this time and must be regarded as inconclusive.

Introduction

Give & Take is a series of twelve 15-minute television/film programs and related print materials on economics and consumer economics. The purpose of the series is to improve the economic knowledge and the decision-making skills of thirteen- to fifteen-year old citizens. The series was developed by the Agency for Instructional Technology (AIT), the Canadian Foundation for Economic Education (CFEE), and the Joint Council on Economic Education (JCEE), with fiscal support from 45 state and provincial agencies, thirteen foundations, eleven corporations and the United States Department of Education.

Planning for the series began in 1979, and the prospectus was published in 1980. In January 1981, a committee of educators met in Bloomington, Indiana, to develop a tentative design for the series. The initial curriculum document was reviewed by economists, economics educators, consumer specialists, labor representatives and teachers. The results of this content verification were reported in AIT Research Report #83. After additional review by the consortium that funded *Give & Take*, a revised design document was issued in July 1981. This document served as the blueprint for series development.

The result of this three-year collaborative effort was the release of *Give & Take* in the fall of 1982. One indication of the impact of *Give & Take* is the number of students who have viewed the series. At the time of this writing, *Give & Take* was being broadcast on 227 non-commercial television stations and being viewed by 600,000 students in almost 22,000 ninth- and tenth-grade classrooms. Additionally, although *Give & Take* was designed for use with fourteen- and fifteen- year-olds, there is substantial evidence of use from the eighth through the twelfth grade.

In addition to utilization data for Give & Take, information concerning its effects has been gathered by several researchers around the United States. This paper reviews that research to help form tentative answers to the following questions.

1) How does *Give & Take* affect students' knowledge of and attitudes toward economics?

2) Does the teacher training with *Give & Take* affect student outcomes?

This report is not a critique of the research that it reviews. It is an attempt to summarize findings and arrive at a deeper understanding of the impact of *Give & Take*.

Six separate studies have been examined. A summary of these studies can be found in the chart in Appendix B.

The Research

Holyoak, Harter, and Wolf

One of the most representative studies was conducted by Holyoak, Harter, and Wolf (1984) of Oregon State University. Their investigation examined the following.

1) *Give & Take*'s effect on economic understanding and on attitudes toward the study of economics
2) the effect of teacher in-service instruction on student economic understanding and attitude toward the study of economics
3) the effect of GPA, socioeconomic status, grade level, gender, and exposure to mass media on students' economic understanding and attitude toward the study of economics

The study was designed around two control groups and two experimental groups comprising high school sophomores, juniors, and seniors as follows.

Experimental Group 1: Seven economics/personal finance teachers participated in a six-hour in-service training workshop about *Give & Take*. These teachers presented the series to their students (N=126) in conjunction with traditional instruction during a three month period.

Experimental Group 2: Six economics/personal finance teachers who received no workshop about *Give & Take* presented the series to their students (N=255) in conjunction with traditional economics instruction during a three-month period.

Control Group 1: Concepts presented in the *Give & Take* series were taught by six economics/personal finance teachers to 92 students using traditional techniques. *Give & Take* was not used as part of the instruction.

Control Group 2: Eighty students received no instruction at all in economics.

Pretests and posttests measuring economic understanding and attitudes were administered to all students in the study.

A total of 1,009 students from fifteen schools ranging in size from 100 to 2,500 students provided 553 sets of usable data. (Three hundred sixty-six students missed either the pretest or the posttest, and another 90 were eliminated from Control Group 2 because of prior course work in economics or personal finance.)

The JCEE Test on *Give & Take*, which is nationally normed, was used to measure economic understanding. The Survey on Economic Attitudes: Attitudes Toward Economics (ATE) was used to measure attitudes toward economics. (See Appendix B for descriptions of all standardized tests mentioned in this report.) Demographic information was collected on a researcher-prepared personal information sheet.

Controlling for pretest scores, the researchers ran analyses of covariance (ANCOVAs) on the economic understanding and attitude posttest scores. These ANCOVAs showed that the *Give & Take* workshop group (Experimental Group 1) performed significantly (.05) better than the other three groups. The ANCOVAs showed that both control groups and the non-workshop group performed equally well on the test of economic understanding.

On attitude testing, the results were slightly different. There was no shift in attitude within any of the four groups.

Finally, the effects of a variety of demographic variables were studied. As might be expected, Holyoak, Harter, and Wolf found both grade level and GPA correlated with pre- and posttest scores. They also found, however, that regardless of grade level or GPA, the amount of increase in test scores did not change except in Experimental Group 2. In this non-workshop group, students with higher grade point averages learned relatively more than did students with lower averages. One can hypothesize that as the GPA increased, so did the ability to learn from *Give & Take* alone. Teachers who participated in a *Give & Take* workshop were able to use the series effectively enough that students with lower GPAs were able to learn from it as effectively as students with higher averages.

In addition to findings that were directly attributable to their data collection, the investigators noted: "An impressive finding was the effect the workshop had in promoting a positive change in the teachers' attitude toward teaching economics. Before the workshop four teachers reported feeling neutral or somewhat negative about teaching economics, while two teachers were somewhat positive and only one teacher reported being very positive. As a result of the workshop, six teachers reported feeling more positive, with three of these being much more positive about this teaching assignment. Only one teacher reported no change at all, but this was the teacher who felt very positive about teaching economics prior to the workshop."

Holyoak, Harter, and Wolf concluded: "The major finding from this study is that the combination of teacher in-service training and viewing of the series by the students may lead to greater economic understanding than when economic concepts are taught using the *Give & Take* series without teacher in-service training or taught in the traditional manner."

Hodgin and Rice

In a similar study, Hodgin and Rice (1984) of the University of Houston at Clear Lake used one experimental and two control groups in an attempt to answer the following questions.

1) Do students learn economics from instruction enhanced by *Give & Take*?
2) Does *Give & Take* -enhanced instruction affect student attitudes?
3) Does *Give & Take* -enhanced instruction have a different effect on student learning or attitude than does traditional instruction?
4) Is learning or attitude affected by race, sex, or religion?

Hodgin and Rice did their study in eighth grade classrooms and formed their groups as follows.

Experimental Group: Students received traditional economics instruction in their social studies classes and went to the school's library twice a week to view *Give & Take* video programs. After viewing the programs, students did some basic word exercises to help reinforce concepts presented in the programs. The teacher of the experimental group, while introduced to *Give & Take* before the study, did not receive any *Give & Take* in-service instruction.

Control Group 1: Students received the same type of economics instruction as did students in the experimental group. They did not view the *Give & Take* programs nor did they do the word exercises done by students in the experimental group.

Control Group 2: Students received no economics instruction.

Each group was composed of seven social studies classes and had only one teacher. That teacher taught in only one group. Students represented achievement levels mixed "from remedial to advanced."

The researchers gathered data with the Joint Council's *Give & Take* normed test and with the ATE. These are the same instruments that were used by Holyoak, Harter, and Wolf. Hodgin and Rice added their demographic questions to the ATE.

T tests showed significant differences (.05) between pretests and posttests for the *Give & Take* group and for the traditional instruction group. Control Group 2 (no economics instruction) exhibited no change.

The findings about attitude toward economics were different. The experimental group, (*Give & Take*), showed an increase at the .10 level of significance in positive attitude toward the study of economics. This finding is interesting but not conclusive; further study may be indicated. Students in Control Group 1 (traditional instruction) showed a more negative attitude toward economics at the end of the study than they did at the beginning. Students who received no instruction in economics showed no change in attitude.

Hodgin and Rice also compared the experimental group to Control Group 1 (no *Give & Take* viewing) and found that the control group scored higher on the pretest (.01) and on the posttest (.05) than did the experimental group. Even though the scores of the *Give & Take* group approached the scores of the non-*Give & Take* group more closely on the posttest than on the pretest, this study found that "given the structure of the experimental design used in this study, it

cannot be concluded that the Give & Take series is superior to conventional modes of instruction for economics." The difference in attitude between the experimental group and the control group on the posttest was significant at the .01 level with the attitude of the *Give & Take* group being significantly more positive.

Study of sex, ethnicity, and religious background indicated that these variables had nothing to do with economic cognition or with attitude. The investigators used both analysis of variance (ANOVA) and regression to study these factors and suggested that a comprehensive demography must include information about students' general abilities and other variables.

These researchers conclude that "...the *Give & Take* series has a positive and significant impact on learning and a positive impact on attitude. However, the conventional mode of instruction in economics also has [a positive] impact on learning although the impact on attitude is negative."

Harris

Research was done by Robert Harris (1983) of Indiana University-Purdue University at Indianapolis (IUPUI) to determine the following.

1) the effect of *Give & Take* on economic cognition and attitudes
2) whether workshop training of teachers improved student learning from the *Give & Take* series
3) whether teachers who have participated in a two-day *Give & Take* workshop can help non-workshop teachers use *Give & Take* effectively enough to improve student outcomes (Key Teacher concept)
4) the relation between understanding of economics and changes in economic attitudes

Harris randomly assigned twenty-five eighth grade teachers' classes to five groups, with five classes going into each group.

Experimental Group 1: Teachers participated in the 1983 *Give & Take* workshop and in a general economics workshop, or they received equivalent training at the IUPUI Center for Economic Education.

Experimental Group 2: Teachers relied on the Experimental Group 1 teachers as resource persons to give them suggestions on implementing the *Give & Take* series and using the supplementary activities.

Experimental Group 3: Teachers used *Give & Take* without assistance or training.

Control Group 1: Teachers had no economics instruction, did not teach economics, and did not show the *Give & Take* programs or use the accompanying activities.

Control Group 2: Teachers had some training in economics but did not show *Give & Take* .

The 797 students who participated in this study came from varied socioeconomic backgrounds and school settings. The schools represented public and private school districts in urban, suburban, and rural settings. The sample was 54% female and was split about 50-50 between "white collar" and "blue collar" families (52% described themselves as blue collar). On standardized achievement tests the students performed somewhat above national norms, with a mean slightly above the 69th percentile.

Cognition and affect were measured by using the JCEE Test on *Give & Take* and the ATE used in the previous two studies. Posttests were administered twelve weeks after the pretests. Demographic analysis included age, sex, parents' occupation (blue or white collar), and school attendance.

Harris used a simultaneous two-equation regression model to determine the differences among the five groups and the effects of the demographic variables. He found that students in the workshop group (Experimental Group 1) performed significantly better on the test about economic understanding than did the students in any of the other four groups. Results in the two control groups and the remaining two experimental groups were equivalent.

Harris found two demographic variables to be significant. As might be expected, achievement test scores had an effect on posttest scores of economic understanding. Also, *Give & Take* had a significantly more positive effect on the attitudes of females toward economics than it did on those of males.

Harris concludes that "*Give & Take* can be an effective medium for teaching economics when it is used by a teacher who has received workshop training on the classroom use of the film series and its supporting teaching activities. In fact, the results indicate that when *Give & Take* is used by a trained teacher, the effect on student learning is significantly better than that achieved by traditional economics instruction at the eighth grade level."

Randall

Taking a different approach, Christine Randall (1985), of the University of Florida, designed her research around only two groups: an experimental group that used only *Give & Take* materials and a control group that used only traditional materials. The *Give & Take* materials were used with three twelfth-grade social studies classes and the traditional instruction was used in two twelfth-grade social studies classes. One teacher taught two experimental classes and one control class while another teacher taught one experimental class and one control class. Both teachers had previous experience with *Give & Take*.

Randall held three meetings with the teachers before the instruction began. The teachers were given all the needed materials, and Randall talked with them about how to conduct classes using either *Give & Take* or the textbook. She continued to meet weekly with the teachers during the study to discuss lesson plans and to ensure that both classes were receiving equivalent materials.

Data were collected with three instruments: the Test of Economic Literacy (TEL); the ATE; and the Survey on Economic Attitudes: Economic Attitude Sophistication (EAS). Data were also collected about students' age, sex, GPA, and economics courses taken before this study.

With t tests, it was determined that the experimental and control groups were equivalent on demographic characteristics and on economic understanding and attitude. Also, the textbook used in the traditionally taught classes was correlated by content analysis with the *Give & Take* series so that only the appropriate parts of the textbook were used. In both groups the teaching lasted seven weeks. At the end of that time, students took a parallel form of the TEL and also took the ATE and the EAS again.

Randall found that posttest performance on the TEL was significantly higher (.05) in the *Give & Take* group than in the textbook group. She attributed this result to the fact that when the series was used in conjunction with suggestions in the *Give & Take Workshop Leader's Handbook* and in the teacher's guide, the learning that occurred in the *Give & Take* class was more active than the learning in the textbook class. In regularly scheduled conversations throughout the study, the two teachers reported that the way they taught with *Give & Take* required more active responses from students than their traditional teaching style. Also, in the opinion of the two teachers, *Give & Take* presented some concepts better than the textbook did.

No differences in attitudes were found between the *Give & Take* and textbook groups. A relation was found, however, between posttest scores and pretest attitudes. Students with more positive scores on the ATE pretest received significantly higher scores on the TEL posttest.

Both teachers in this study told Randall that "in the future they plan to use both the textbook and the *Give & Take* film series and its accompanying materials in teaching their economics classes." The teachers commented that the students in the textbook classes had a more difficult time understanding "supply and demand" and "substitution" than the students in the *Give & Take* class.

So far, we have found that when *Give & Take* is used by a teacher who facilitates *Give & Take* as recommended, the difference between the *Give & Take* and the non-*Give & Take* classroom is constantly significant. Also, we have seen one instance in which *Give & Take* was used by untrained teachers to elevate student performance (Hodgin and Rice) and one instance in which *Give & Take* was used alone, rather than as an enhancement to traditional instruction, to raise student outcomes above those of a traditionally taught class (Randall).

Chizmar, McCarney, Halinski, and Racich

Researchers at Illinois State University used *Give & Take* to ask a different type of question. Chizmar, McCarney, Halinski, and Racich began with the following assumptions.

1) Instruction in economic concepts results in gains in economic understanding (Dawson, 1977; Dawson and Davison, 1969; Walstad, 1978).

2) Students of teachers who are instructed in the classroom use of economic curricular materials show greater cognitive gains than students who are instructed by teachers not given workshop exposure (Becker,1975; Highsmith, 1974; Walstad and McFarland, 1980).

3) Extended instruction in effective economic programs provides greater gains in knowledge, understanding, and application ability (Chizmar and Halinski, 1983).

They said further: "A central concern about the infusion of a greater amount of economic concept understandings in the school curriculum is the perception that something else ... more basic or vital would be displaced. In the jargon of economics, a substitution would occur."

In this environment, they investigated the transfer from *Give & Take* to generalized problem-solving skills, verbal ability, and quantitative ability.

Problem-solving skills were measured by the Social Studies Subtest of the Sequential Tests of Educational Progress (STEP). "The Social Studies test focuses on broad interdisciplinary themes and concepts, and it emphasizes critical problem-solving skills." The STEP has a reliability coefficient that ranges from .88 to .90 and also exhibits convergent and discriminant validity with respective sections of the School and College Ability Test (SCAT). The SCAT, which has a reliability of .90, was used to measure verbal and quantitative skills. Economics learning was measured by the Economics Assessment Test (ECON). ECON, which has an internal consistency reliability of .79, was developed at the Illinois State Center for Economic Education.

Forty-eight classes (19 control, 29 experimental) with a total of 1,016 students in grades eight through twelve were instructed in *Give & Take* or served as a control group not using *Give & Take*. Nineteen teachers were involved in the study. Each received fifteen hours of in-service training in the use of *Give & Take*. About half the teachers had classes in both the experimental and control groups. Approximately half of each class in both the experimental and control groups received the STEP assessment; the other half took the ECON. Thus there were separate STEP and ECON subsamples.

The STEP subsample was used to study whether knowledge gained from *Give & Take* transferred to reasoning abilities. The ECON subsample was used to study the impact of *Give & Take* on verbal and quantitative skills.

To ascertain the effect of *Give & Take* on reasoning, a regression model was designed, with STEP posttest scores as the dependent variable. The findings were that after controls for verbal and quantitative ability (as measured by the SCAT) and for STEP pretest scores, *Give & Take* did contribute significantly to critical reasoning skills. The gain attributed to *Give & Take* was 1.7 points on the social studies subtest over the course of this study (one semester). Chizmar et al. state that this gain can be compared to "the STEP national norms that show an approximate average gain of 1 point per semester for students in grades eight through ten."

The effect of *Give & Take* on general verbal and qualitative skills was assessed in the ECON subsample. The authors used a two-equation regression model with path analysis to determine that there was no direct influence on verbal or quantitative skills. There was, however, a significant indirect influence "operating through economic cognition." That is, path analysis showed that although there was no direct relation between *Give & Take* and SCAT scores, that there was a positive relationship between *Give & Take* and ECON scores and another positive relationship between ECON and SCAT scores. The authors deduced that *Give & Take* had a positive, indirect influence on verbal and quantitative skills.

In conclusion, the authors said: "If future research further substantiates the transfer effects of *Give & Take*, there will be profound implications for the development of curricular materials. By creating learning activities that enhance basic skill development, the economic education materials became a complement rather than a substitute."

McCarney, Chizmar, Halinski, and Racich

Finally, in a study using the same data base, McCarney, Chizmar, Halinski, and Racich studied "two aspects of teacher presentation" of *Give & Take*: amount of instructional time and type of classroom activities. There were two categories of instructional time: initiating (introducing the program) and culminating (follow-up of the program). Initiating and culminating time were added together to create an instructional time variable. Classroom activities were evaluated as either passive (e.g., discussion of terms and concepts; listening to an outside speaker) or active (e.g., completing a budget grid; participating in a simulation). Teachers kept diaries on how much time was spent in each of the different categories.

McCarney et al. used a regression model to do an analysis of variance and found that "simply spending more classroom time on an economic education does not enhance cognitive achievement. Rather, what is done with time is of major importance. It is the combination of an active learning process plus more time that produces higher scores."

Discussion and Conclusions

This review has examined six separate research studies. The stated purpose of the review was to form tentative answers to two questions.

1) How does *Give & Take* affect students' knowledge of and attitudes toward economics?

2) Does teacher training with *Give & Take* affect student outcomes?

In this section we will integrate these findings and draw some conclusions based upon the results of these studies.

Regarding students' learning of economics, five of these studies (Randall, Hodgin, Holyoak, Harris, Chizmar) have compared classrooms using *Give & Take* to classrooms not using it. In three (Randall, Holyoak, Harris) of those four studies, some teachers had special training in the use of *Give & Take* and some teachers did not. These three studies all found that the effect of teacher training in the use of *Give & Take* was significant when compared either to non-use of *Give & Take* or to the use of *Give & Take* with no training. In these three studies, non-use of *Give & Take* and untrained use of *Give & Take* produced statistically equivalent outcomes. Chizmar, who used only teachers who had participated in *Give & Take* workshops found that students in *Give & Take*-enhanced classes achieved higher scores not only on tests of economic learning, but also on tests of problem-solving skills and on tests of verbal and quantatitive skills. Students' attitudes toward economics were less affected by economics instruction, whether traditional or *Give & Take*- enhanced, than economic learning was. Two of the studies (Holyoak, Randall) found no effect on attitude by either type of instruction. Harris found that females' attitudes were more positively affected by economic instruction than were the attitudes of males, whether or not the students had viewed *Give & Take*. Hodgin found that *Give & Take* -enhanced instruction affected attitudes positively; whereas conventional instruction had a negative impact. Overall, the results about effect on attitude are inconclusive. Clearly, students' attitudes toward economics are affected by influences beyond classroom instruction (e.g., family background; job experience). Whatever influence the classroom may exert might be positvely enhanced, however, by the use of *Give & Take* (Hodgin).

McCarney's work on teaching style pervades this body of research. Many *Give & Take* workshops and the teacher's guide encourage the teacher to work actively with students—that is, to put the students in situations that require decision-making, role playing, simulating, etc. McCarney's work shows us that such active teaching increases student test scores. Indeed, his work demonstrates that to increase teaching time without concomitant activity may decrease student outcomes.

In conclusion, *Give & Take* when used by a teacher with an active teaching style, has been shown to be an excellent tool for increasing student economic cognition. Furthermore, there is limited evidence that it has a positive influence on student attitude toward economics (Hodgin) and on teachers' attitudes toward teaching economics (Holyoak). The effectiveness of *Give & Take* seems unrelated to demographic variables such as race, religion, and socioeconomic status. Therefore, the series should be equally effective in most types of schools in all parts of the United States and Canada.

The majority of evidence in these studies supports the claim that *Give & Take* is an effective enhancement to classroom instruction. The samples used in this body of research have ranged from eighth through twelfth grade. It appears that *Give & Take* would be useful for a variety of students far beyond the fourteen- and fifteen-year-olds for whom it was designed.

References

Becker, W.E., Helmberger, J.D., and Thompson, J.L, "An Evaluation of a Developmental Economic Education Project Given Limited Data," *Journal of Economic Education*, Spring 1975, 6, 120-125.

Chizmar, J.F., and Halinski, R.S., "Performance in the Basic Economics Test (BET) and 'Trade-offs,'" *Journal of Economic Education*, Winter 1983, 18-29.

Dawson, G.G., "Research in Economic Education at the Pre-College Level," in D. Wentworth, ed., *Perspectives on Economic Education*, New York: Joint Council on Economic Education, 1977, 85-103.

Dawson, G.G. and Davison, D., "Research in the Teaching of Economics," in G.G. Dawson, ed., *Economic Education Experiences of Enterprising Teachers* , vol. 6, New York: Joint Council on Economic Education, 1969, 59-80.

Highsmith, R., "A Study to Measure the Impact of In-Service Institutions on Students of Teachers Who Participated," *Journal of Economic Education*, Spring 1974, 93-99.

Walstad, W.B., "Economic Problem Solving in Elementary Schools: Specification and Estimation of Alternative Learning Models to Measure the In-Service Impact," Ph.D. diss., University of Minnesota, 1978.

Walstad, W.B., and McFarland, M., "'Trade-offs' and Teacher In-Service," *Social Education*, May 1980, 411ff.

Appendix A

Instruments Used by Researchers in this Report

Economics Assessment Test (ECON)

The ECON was developed at the Illinois State University Center for Economic Education. It is a 42-item multiple choice test for measuring understanding of economic concepts. It has a Kuder-Richardson internal consistency reliability of .79.

School and College Ability Test (SCAT)

The SCAT is a nationally normed test of verbal and quantitative abilities for ninth- to twelfth-grade students published by the Educational Testing Service (ETS). The verbal and quantitative parts, each containing 50 multiple choice items, have Kuder-Richardson internal consistency coefficients of .88 and .91 respectively.

Sequential Tests of Educational Progress (Social Studies Subtest) (STEP)

The STEP social studies subtest is a nationally normed test of broad interdisciplinary themes and concepts emphasizing critical problem-solving skills. It is published by ETS and has a Kuder-Richardson internal consistency reliability of .89.

Student Economic Attitude Survey (SEA)

The SEA is used to measure students' attitudes about economics and is comprised of fourteen statements that students respond to with their degree of agreement or disagreement. It includes items such as: "I would be willing to attend a lecture by an economist"; and "Studying economics is a waste of time." Its test-retest reliability (one-week interval) is .86.

Test of Economic Literacy (TEL)

The TEL was developed by John Soper of the Joint Council for Economic Education in 1979. Its Cronbach Alpha measure of internal consistency is .87.

Test on *Give & Take*

The JCEE G & T was developed by the Joint Council on Economic Instruction. It was nationally normed with a sample of 1,834 eighth- to tenth-graders who scored an average of 21 out of 36 items on the test. The norming sample represented a variety of settings, backgrounds in economics, and teaching styles. Its Cronback Alpha internal consistency reliability is .85.

Appendix B
Comprehensive Chart of Studies Reviewed

Principal Author/Location	Sample	Student Characteristics Studied	Groups	Instruments	Findings
Arlene Holyoak Oregon State University	Students (n=553) Teachers (n=23) Sophomores, Juniors, Seniors	Gender, Grade Level, GPA, Use of Mass Media, Family Socioeconomic Status	**E1**=Teacher In-Service Experience with *Give & Take* **E2**=Use of *Give & Take* without In-Service Experience **C1**=Traditional Economics Instruction, No Use of *Give & Take* **C2**=No Economics Instruction	JCEE G&T SEA:ATE	1. E1 performed significantly better on JCEE G&T than all other groups. 2. No significant differences on SEA:ATE. 3. The only student characteristics to affect JCEE G&T scores were grade level and GPA. 4. In-Service training with *Give & Take* positively affected teacher attitudes about teaching economics.
Robert Hodgin University of Houston at Clear Lake	Classes (n=21) Teachers (n=3) Eighth Grade	Gender, Ethnicity, Religion	**E1**=Use of *Give & Take* without In-Service Experience **C1**=Traditional Economics Instruments; No Use of *Give & Take* **C2**=No Economics Instruction	JCEE G&T SEA:ATE	1. E1 and C1 both performed significantly better on the JCEE G&Tposttest than on the pretest. C2 exhibited no change. 2. Attitudes toward economics became more positive in E1 and more negative in C1. C2 exhibited no change. 3. None of the student characteristics affected outcomes on either JCEE G&T or SEA:ATE.
Robert Harris Indiana University-Purdue University at Indianapolis	Students (n=747) Classes (n=30) Eighth Grade	Age, Gender, Parental Occupation, School Attendance Record	**E1**=Teacher In-Service Experience with *Give & Take* **E2**=Teacher Use of *Give & Take* with Help of Teachers who Had In-Service **E3**=Use of *Give & Take* without Assistance **C1**=Traditional Economics Instruction; No Use of *Give & Take* **C2**=No Economics Instruction	TEL SEA:ATE	1. E1 performed significantly higher than other groups on TEL. 2. There were no changes on the SEA:ATE in any group. 3. *Give & Take* had a significantly more positive effect on the attitudes of females toward economics than it did on those of males.

Principal Author/Location	Sample	Student Characteristics Studied	Groups	Instruments	Findings
Christine Randall University of Florida	Students (n=105) Classes (n=5) Teachers (n=2) Seniors	Age, Gender,GPA	**E1**=Used Only *Give & Take*; No Traditional Instruction **C1**=Traditional Textbook Instruction Only	TEL SEA:ATE SEA:EAS	1. E1 performed significantly higher on the TEL than C1 did. 2. Neither method of instruction had an effect on attitude. 3. Neither age nor gender affected TEL or SEA scores. 4. TEL scores could be partially predicted by GPA.
John Chizmar Illinois State University	Students (n=1016) Classes (n=48) Teachers (n=19) Schools (n=16) Eighth Grade to Twelfth Grade	Gender	•Problem-Solving Skills **E1**=*Give & Take* from Teachers who had In-Service Training **C1**=No Use of *Give & Take* •Verbal and QuantativeSkills **E1** and **C1** as above	SCAT STEP ECON	1. *Give & Take* had a direct, positive effect on problem-solving skills. 2. *Give & Take* had an indirect, positive effect on verbal and quantitative skills. 3. No differences were attributed to gender.
Bernard McCarney Illinois State University	Students (n=106) Classes (n=48) Teachers (n=19) Eighth Grade to Twelfth Grade		•Amount of Time for Instruction **E1**=High Time **C1**=Low Time •Style of Instruction **E1**=Active **C1**=Passive	Teacher diaries of amount and types of instruction ECON	1. ECON scores increased significantly in classes of teachers who increased the amount of time on active instruction. 2. ECON scores decreased significantly in classes of teachers who increased the amount of time on passive instruction.

Agency for Instructional Technology
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Bloomington, Indiana 47402
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Agency for Instructional Technology, a nonprofit American-Canadian organization established in 1973 to strengthen education through technology. In cooperation with state and provincial agencies, AIT develops instructional materials using television and computers. AIT also acquires and distributes a wide variety of television and related print materials for use as major learning resources. It makes many of these materials available in audiovisual formats. From April 1973 to July 1984, AIT was known as the Agency for Instructional Television. Its predecessor organization, National Instructional Television, was founded in 1962. AIT's main offices are in Bloomington, Indiana.

Canadian Foundation for Economic Education
252 Bloor Street West
Toronto, Ontario M5S 1V5
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Canadian Foundation for Economic Education, a federally-chartered nonprofit organization dedicated to strengthening economics instruction in Canada. It aims to promote greater economic awareness by assisting and encouraging the edcuational systems to improve the quality and expand the quantity of economics now being taught in Canadian elementary and secondary schools. The Foundation produces educational materials and provides resources and programs to facilitate the teaching of economics and economics-related subjects throughout the country.

Joint Council on Economic Education
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New York, New York 10016
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Joint Council on Economic Education, an independent, nonprofit, nonpartisan, educational organization incorporated in 1949 to encourage, improve, coordinate and service the economic education movement. Its principal medium for expanding and improving economic education is a network of Affiliated Councils functioning at the state level and Centers for Economic Education on college and university campuses. The American Economic Association and American Association of Colleges for Teacher Education are formally affiliated with the Joint Council, as are other national professional groups concerned with economic education.

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